

SEQUENCE LISTING

<110> ITOH, Kyogo; Sumitomo Pharmaceuticals Company, Limited
<120> A Novel Tumor Antigen ART-1, and It's Tumor Antigen Peptides
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5 <150> Japan: 98-341253
<151> 01. 12. 98
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<213> Homo sapiens

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Thr Asn Arg Ser Ser Phe Asp Leu Leu Pro Arg Glu Phe Arg Leu Val

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25

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Glu Val His Asp Pro Pro Leu His Gln Pro Ser Ala Asn Lys Pro Lys

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20 Pro Pro Thr Met Leu Asp Ile Pro Ser Glu Pro Cys Ser Leu Thr Ile

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His Thr Ile Gln Leu Ile Gln His Asn Arg Arg Leu Arg Asn Leu Ile

65

70

75

80

Ala Thr Ala Gln Ala Gln Asn Gln Gln Gln Thr Glu Gly Val Lys Thr

25 85 90 95

Glu Glu Ser Glu Pro Leu Pro Ser Cys Pro Gly Ser Pro Pro Leu Pro

100

105

110

Asp Asp Leu Leu Pro Leu Asp Cys Lys Asn Pro Asn Ala Pro Phe Gln

115

120

125

Ile Arg His Ser Asp Pro Glu Ser Asp Phe Tyr Arg Gly Lys Gly Glu
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 Pro Val Thr Glu Leu Ser Trp His Ser Cys Arg Gln Leu Leu Tyr Gln
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 5 Ala Val Ala Thr Ile Leu Ala His Ala Gly Phe Asp Cys Ala Asn Glu
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 Ser Val Leu Glu Thr Leu Thr Asp Val Ala His Glu Tyr Cys Leu Lys
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 Phe Thr Lys Leu Leu Arg Phe Ala Val Asp Arg Glu Ala Arg Leu Gly
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 Gln Thr Pro Phe Pro Asp Val Met Glu Gln Val Phe His Glu Val Gly
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 Ile Gly Ser Val Leu Ser Leu Gln Lys Phe Trp Gln His Arg Ile Lys
 225 230 235 240
 15 Asp Tyr His Ser Tyr Met Leu Gln Ile Ser Lys Gln Leu Ser Glu Glu
 245 250 255
 Tyr Glu Arg Ile Val Asn Pro Glu Lys Ala Thr Glu Asp Ala Lys Pro
 260 265 270
 Val Lys Ile Lys Glu Glu Pro Val Ser Asp Ile Thr Phe Pro Val Ser
 20 275 280 285
 Glu Glu Leu Glu Ala Asp Leu Ala Ser Gly Asp Gln Ser Leu Pro Met
 290 295 300
 Gly Val Leu Gly Ala Gln Ser Glu Arg Phe Pro Ser Asn Leu Glu Val
 305 310 315 320
 25 Glu Ala Ser Pro Gln Ala Ser Ser Ala Glu Val Asn Ala Ser Pro Leu
 325 330 335
 Trp Asn Leu Ala His Val Lys Met Glu Pro Gln Glu Ser Glu Glu Gly
 340 345 350
 Asn Val Ser Gly His Gly Val Leu Gly Ser Asp Val Phe Glu Glu Pro

355 360 365

Met Ser Gly Met Ser Glu Ala Gly Ile Pro Gln Ser Pro Asp Asp Ser

370 375 380

Asp Ser Ser Tyr Gly Ser His Ser Thr Asp Ser Leu Met Gly Ser Ser

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Pro Val Phe Asn Gln Arg Cys Lys Lys Arg Met Arg Lys Ile

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*Sub
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ggctgccctg aacgtcaggc gacctcagga ccctgtgatt ggccgcctgcg ccggcggacc 180

gtgaccgagg aaacccctgg agggacttgg gcattccttg ggctccgtgc ctgttcttcg 240

tgctccttc gggcaaggat ctoacattat cagtcttga ccgacacaga atgcctggca 300

tttgataaat gtttgtgaa cttgaagaga catatggaca atg aat ctg caa aga 355

20 Met Asn Leu Gln Arg

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tac tgg gga gag ata cca ata tca tca agc cag acc aac aga agt tcc 403

Tyr Trp Gly Glu Ile Pro Ile Ser Ser Ser Gln Thr Asn Arg Ser Ser

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25 ttc gat ttg ctc cca cgg gag ttc cgt ctg gtg gaa gtc cat gac cca 451

Phe Asp Leu Leu Pro Arg Glu Phe Arg Leu Val Glu Val His Asp Pro

25 30 35

ccc ctg cac caa ccc tca gcc aac aag ccg aag ccc ccc act atg ctg 499

Pro Leu His Gln Pro Ser Ala Asn Lys Pro Lys Pro Pro Thr Met Leu

40 45 50

gac atc ccc tca gag cca tgt agt ctc acc atc cat acg att cag ttg 547
Asp Ile Pro Ser Glu Pro Cys Ser Leu Thr Ile His Thr Ile Gln Leu

5 55 60 65

att cag cac aac cga cgt ctt cgc aac ctt att gcc aca gct cag gcc 595
Ile Gln His Asn Arg Arg Leu Arg Asn Leu Ile Ala Thr Ala Gln Ala

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cag aat cag cag cag aca gaa ggt gta aaa act gaa gag agt gaa cct 643
Gln Asn Gln Gln Gln Thr Glu Gly Val Lys Thr Glu Glu Ser Glu Pro

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ctt ccc tcg tgc cct ggg tca cct cct ctc cct gat gac ctc ctg cct 691
Leu Pro Ser Cys Pro Gly Ser Pro Pro Leu Pro Asp Asp Leu Leu Pro

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tta gat tgt aag aat ccc aat gca cca ttc cag atc cgg cac agt gac 739
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Pro Glu Ser Asp Phe Tyr Arg Gly Lys Gly Glu Pro Val Thr Glu Leu

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Ser Trp His Ser Cys Arg Gln Leu Leu Tyr Gln Ala Val Ala Thr Ile

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ctg gcc cac gcg ggc ttt gac tgt gct aat gag agt gtc ctg gag acc 883
Leu Ala His Ala Gly Phe Asp Cys Ala Asn Glu Ser Val Leu Glu Thr

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cta act gat gtg gca cat gag tat tgc ctt aag ttt acc aag ttg ctg 931
Leu Thr Asp Val Ala His Glu Tyr Cys Leu Lys Phe Thr Lys Leu Leu

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cgt ttt gct gtg gac cgg gag gcc cgg ctg gga cag act cct ttt cct 979

Sub
B6

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Arg Phe Ala Val Asp Arg Glu Ala Arg Leu Gly Gln Thr Pro Phe Pro
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 Asp Val Met Glu Gln Val Phe His Glu Val Gly Ile Gly Ser Val Leu
 5 215 220 225
 tcc ctc cag aag ttc tgg cag cac cgc atc aag gac tat cac agt tac 1075
 Ser Leu Gln Lys Phe Trp Gln His Arg Ile Lys Asp Tyr His Ser Tyr
 230 235 240 245
 atg cta cag att agt aag caa ctc tct gaa gaa tat gaa agg att gtc 1123
 Met Leu Gln Ile Ser Lys Gln Leu Ser Glu Glu Tyr Glu Arg Ile Val
 250 255 260
 aat cct gag aag gcc aca gag gac gct aaa cct gtg aag atc aag gag 1171
 Asn Pro Glu Lys Ala Thr Glu Asp Ala Lys Pro Val Lys Ile Lys Glu
 265 270 275
 15 gaa cct gtg agc gac atc act ttt cct gtc agt gag gag ctg gag gct 1219
 Glu Pro Val Ser Asp Ile Thr Phe Pro Val Ser Glu Glu Leu Glu Ala
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 gac ctt gct tct gga gac cag tca ctg cct atg gga gtg ctt ggg gct 1267
 Asp Leu Ala Ser Gly Asp Gln Ser Leu Pro Met Gly Val Leu Gly Ala
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 cag agc gaa cgc ttc cca tct aac ctg gag gtt gaa gct tca cca cag 1315
 Gln Ser Glu Arg Phe Pro Ser Asn Leu Glu Val Glu Ala Ser Pro Gln
 310 315 320 325
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 25 Ala Ser Ser Ala Glu Val Asn Ala Ser Pro Leu Trp Asn Leu Ala His
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 gtg aaa atg gag cct caa gaa agt gaa gaa ggc aat gtc tct ggg cat 1411
 Val Lys Met Glu Pro Gln Glu Ser Glu Glu Gly Asn Val Ser Gly His
 345 350 355

ggt gtg ctg ggc agt gat gtc ttc gag gag cct atg tca ggc atg agt 1459
 Gly Val Leu Gly Ser Asp Val Phe Glu Glu Pro Met Ser Gly Met Ser

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gaa gct ggg att cct cag agc cct gat gac tca gat agc agc tat ggt 1507
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tcc cac tcc act gac agc ctc atg ggg tcc tcc cct gtt ttc aac cag 1555
 Ser His Ser Thr Asp Ser Leu Met Gly Ser Ser Pro Val Phe Asn Gln

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 10 Arg Cys Lys Lys Arg Met Arg Lys Ile

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212 PRT

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Leu Xaa Gln Ala Val Ala Thr Xaa

Leu Xaa Gln/Ala Val Ala Thr Xaa

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